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Finkle et al.

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(54) **EXTENDABLE HULL-MOUNTED SONAR SYSTEM**

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(58) **Field of Search** **367/106, 130, 367/173, 129, 153**

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(57) **ABSTRACT**

A system to extend transducer arrays from the hull of a vessel while it is underway provides for increased array gain, volumetric aperture (very large aperture arrays), and rejection of hull-bound noise for submarines, surface ships, weapons, and unmanned underwater and surface vehicles. A plurality of arms extend radially outwardly from the hull of a submarine, and passive and/or active elements of the arrays are mounted around the hull on the arms, trail in the water from the arms, or extend between different ones of the arms or between arms and the hull. The system of arms and the array are folded into elongate recesses in the hull to lower noise during higher speed transit by the submarine. The arrays can be made up of sensors and/or projectors of radar, sonar signals, optical energy, vibrational energy, magnetic influence, temperature, etc., and combinations of these sensors.

21 Claims, 3 Drawing Sheets

